USOV, I.N., dotsent

Arterial oscillometry in nephropathies in children. Zdrav. Belor. 6 no.6:42-44 Je '60. (MIRA 13:8)

1. Iz kafedry detskikh bolezney (zav. - akad. AN BSSR prof. V.A. Leonov) Minskogo meditsinskogo instituta.
(KIDNEYS—DISEASES) (OSCILLOGRAPHY)
(BLOOD PRESSURE)

USOV, I.N., dotsent; LAPIDUS, M.B.

Electrocardiographic changes in children in influenza. Zdrav. Belor. 6 no.9:13-15 S '60. (MIRA 13:9)

1. Iz kliniki detskikh bolezney Minskogo meditsinskogo instituta (zav. kafedroy - akademik AN BSSR V.A. Leonov) i 1-go klinicheskogo ob"yedineniya g. Minska (glavnyy vrach A.I. Shuba).
(ELECTROCARDIOGRAPHY) (INFLUENZA)

USOV, I.N. [Usau, I.N.]

Proteins of the blood serum in children sick with nephritis and nephrotic syndrome. Vestsi AN BSSR.Ser.biial.nav. no.3: 112-118 '62. (MIRA 15:12)

(BLOOD PROTEINS) (KIDNEYS--DISEASES)

USOV, I.N.

Significance of adrenal hypofunction in the pathogenesis of experimental nephritis. Dokl.AN BSSR 6 no.4:266-269 Ap '62. (MIRA 15:4)

1. Minskiy gosudarstvennyy meditsinskiy institut. Predstavleno akademikom AN BSSR V.A.Leonovym.
(KIDNEYS--DISEASES) (ADRENAL GLANDS)

USOV, I.N., dotsent

Dependence of the degree of edema on the hyaluronidase acitivity of the blood serum in nephropathies in children. Zdrav.Bel. 8 no.2:21-26 F '62. (MIRA 15:11)

1. Kafedra detskikh bolezney (zav. - akademik AN BSSR V.A.Leonov) Minskogo meditsinskogo instituta.
(KIDNEYS—DISEASES) (HYALURONIDASE) (EDEMA)

USOV, Ivan Nesterovich, dots.; GUTKOVSKAYA, O., red.; STEPANOVA, N., tekhn. red.

[How to prevent and treat the weakening of a child; advice to parents] Kak predupredit' i lechit' oslablenie rebenka; sovety roditeliam. Minsk, Gosizdat BSSR, 1963. 109 p. (MIRA 16:4)

(CHILDREN--CARE AND HYGIENE)
(CHILDREN--DISEASES)

USOV, I.N., dotsent

Changes in phosphorus and calcium metabolism transformations in the bones in nephropathies in children. Padiatriia 4 no.7: 47-50 Jl'63 (MIRA 16:12)

1. Iz kafedry detskikh bolezney (zav. - akademik AN BSSR V.A. Leonov) Minskogo meditsinskogo instituta.

USOV, I.N.

Electrolyte exchange in pediatric nephropathy. Dokl. AN BSSR 7 no.5:353-356 My '63. (MIRA 16:12)

1. Minskiy meditsinskiy institut. Predstavleno akademikom AN BSSR V.A. Leonovym.

USOV, I.N.; RABTSEVICH, T.S.

Morphological characteristics of experimental nephritis in hypofunction of the adrenal glands in young rabbits. Dokl. AN BSSR 8 no.5:345-347 My '64. (MIRA 17:9)

1. Minskiy meditsinskiy gosudarstvennyy institut. Predstavleno akademikom AN BSSR V.A. Leonovym.

L 14450-66 EWT(m)/T WE (A) SOURCE CODE: UR/0286/65/000/024/0116/0116 31 B
ACC NR: AP6002950

INVENTOR: Usanov, V. A.; Usov, I. R.

ORG: none

TITLE: Altitude compensating unit for carburetors in internal combustion engines. Class 46, No. 177202 [announced by Central Scientific Research and Design Institute for Fuels Systems in Automotive and Stationary Engines (Tsentral'nyy nauchno-issledovatel'skiy i konstruktorskiy institut toplivnoy apparatury avtotraktornykh i statsionarnykh dvigateley)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 116

TOPIC TAGS: internal combustion engine, diffuser, fuel carburetor

ABSTRACT: This Author's Certificate introduces an altitude compensating unit for carburetors in internal combustion engines. The device contains a sensing element, e.g. a bellows, which reacts to changes in atmospheric pressure, and an actuating mechanism which controls fuel supply from the atomizer to the intake channel by changing the vacuum in the main metering system of the carburetor. The design is

UDC: 621.43.033.6(23.08)

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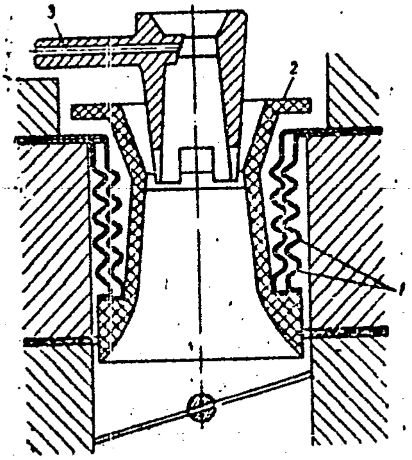
2

L 14450-66

ACC NR: AP6002950



1 - sensing element; 2 - sliding diffuser; 3 - atomizer.

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L 14450-66
ACC NR: AP6002950

0

simplified and the operating stability is improved by making the actuating mechanism in the form of a sliding diffuser connected to the sensing element. The atomizer is located in the throat of the diffuser.

SUB CODE: 21/ SUBM DATE: 15Aug63

Card 3/3

1. [illegible] EWT(d)/ESS-2

ACC NR: AP6033681 SOURCE CODE: UR/0106/66/00/010/0026/0030

AUTHOR: Yaroslavskiy, L. I.; Vol'fbeyn, S. P.; Usov, I. S.

52
B

ORG: none

TITLE: A method for increasing the transmission speed of discrete information

9

SOURCE: Elektrosvyaz', no. 10, 1966, 26-30

TOPIC TAGS: binary code, data transmission, encoding theory

ABSTRACT: The authors review variations in the duobinary technique for improving the transmission of binary coded data. The technique treats a binary signal train to a second binary encoding, which permits higher information transmission rates and gives better resistance to transient noise effects. A direct form of duobinary coding is seen in Fig. 1, where (a) is the input binary signal. This signal is transformed such that its negative-going zero crossings yield (+1), but its positive-going zero crossings do not (0), resulting in the duobinary singal of (b). The 1963 papers of Lender and Bramhall on the subject are cited, and their findings on the advantages of duobinary coding are confirmed. The cited authors credit the increased transmission speed to the fact that the energy spectrum of the duobinary signal is only half that of the original; however, the present authors deny that this

Card 1/2 UDC: 621.394.14

ACC NR: AP6033681

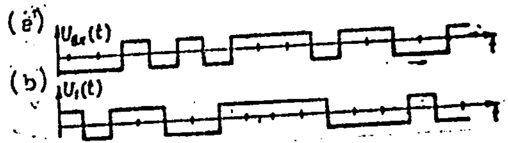

Fig. 1. Duobinary encoding

can be the reason, since a case can be shown where a doubled speed is achieved even though the energy spectrum is unchanged. Another hypothetical example of duobinary coding is given which would increase transmission speed by 1 1/2 times. Orig. art. has: 6 formulas and 6 figures.

SUB CODE: 09/ SUBM DATE: 20Jul65/ OTH REF: 003/ ATD PRESS: 5100

Card 2/2 vmb

ACC NR: AP7004659 SOURCE CODE: UR/0432/66/000/001/0051/0052

AUTHOR: Usov, I. S.; Yaroslavskiy, L. I. (Candidate of technical sciences)

ORG: none

TITLE: Device for measuring pulse noise and interruptions in telephone channels with variable integration time

SOURCE: Mekhanizatsiya i avtomatizatsiya upravleniya, no. 1, 1966, 51-52

TOPIC TAGS: telephone equipment, electronic test equipment, noise analyzer, COMMUNICATION CHANNEL

ABSTRACT: A device for measuring pulse noise and short-term interruptions in telephone channels used for voice-frequency carrier telegraphy and data transmission in the 300—3400 cps frequency range is described. The portable device, developed in the Kiev branch of the Central Scientific Research Institute of Communications, is designed for general field use. It operates by generating pulses whose number is proportional to the integrated value of the input pulse noise or interruption. Some characteristics of the device are: input power range, $\geq 10^5 \geq 5 \cdot 10^5$ and $\geq 10^6 \geq 2 \cdot 10^6$ nw; range of short-term interruptions, 1.5—3.5 neper; integration time, 0.5—5 msec; accuracy of the integration time, 5%; input impedance, 600 ohm or more than 7 kohm; maximum counting speed, 2000 cps; power consumption, 30 w; input voltage, 110/127/220 v (±15%) at 50 cps; operating temperature, 5—40C; size,

Card 1/2 UDC: 621.391.17

ACC NR: AP7004659

360 x 135 x 480 mm; and weight, 9 kg. The device was successfully tested on local and long distance telephone lines. Orig. art. has: 2 figures. [IV]

SUB CODE: 17/ SUBM DATE: none/

Card 2/2

USOV, L.A.

Effect of Scutellaria baicalensis in experimental hypertension [with summary in English]. Farm. i toks. 21 no.2:31-34 Mr-Ap '58 (MIRA 11:6)

1. Kafedra farmakologii (zav. - prof. Ye.M. Dumenova) Tomskogo meditsinskogo instituta.

(HYPERTENSTION, experimental,
eff. of Scutellaria baicalensis (Rus))
(PLANTS, Scutellaria baicalensis, eff. on exper.
hypertension (Rus))

Cand

USOV, L. A.: Master Med Sci (diss) -- "Material on the mechanism of the hypotensive effect of the Baykal Scutellaria". Tomsk, 1958. 11 pp (Tomsk Med Inst), 200 copies (KL, No 2, 1959, 126)

USOV, L.A.

New method for determining the tonus of cerebral vessels. Farm.i toks. 23 no.3:271-272 My-Je '60. (MIRA 14:3)

1. Kafedra farmakologii (zav. - prof. Ye.M.Dumenova) Tomskogo meditsinskogo instituta.
(BRAIN—BLOOD SUPPLY)

SARATIKOV, A.S.; USOV, L.A.

Effect of camphor on the cerebral circulation. Farm.i toks. 23 no.6:509-515 N-D '60. (MIRA 14:3)

1. Chair of Pharmacology of the Tomsk Medical Institute.
(CAMPHOR) (BRAIN—BLOOD SUPPLY)

SARATIKOV, A.S.; USOV, L.A.; ZHEINOVICH, L.I.

Role of the reinforcing nerve of the heart in the mechanism of the cardiotonic action of camphor. Farm. i toks. 27 no.4:439-444 Jl-Ag '64. (MIRA 17:11)

1. Tomskiy meditsinskiy institut.

L 60899-65 EWG(j)/EWT(1)/EWP(e)/EWT(m)/EPF(n)/EPR(a)/EWP(i)/EWP(

TOPIC TAGS: plasma, plasma use, refractory coating, corrosion, structural material corrosion, gas corrosion, corrosion prevention

PURPOSE AND [illegible]

[illegible]

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0

SUB CODE: MM SUBMITTED: 16Jan65 NO REF SOV: 019

OTHER: 059

Card 4/4

1. USOV, M.

2. USSR (600)

4. Moving Pictures

7. For the explorers of the desert. Kinomekhanik, No. 3, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

USOV, M.

Fire safety organization of the Russian Federation successfully prevents fires. Pozh.delo 3 no.5:2-4 My '57. (MLRA 10:7)

1. Zamestitel' ministra vnutrennikh del RSFSR. Pozh.delo 3 no.5:2-4 My '57. (MLRA 10:7)

(Fire prevention)

USOV, Mikhail Antonovich, 1983-1939

(Phases and cycles of the tectonic formation of the Western Siberian Region)

Tomsk, 1936. 209. p. (50-40887)

QE315.U8

USOV, M.I.

Fountain of youth. Zdorov'e 8 no.2:18 F '62. (MIRA 15:4)
(DELONE, BORIS NIKOLAEVICH)

USOV, M.P.

KOVUN, P.K., NEVZOROV, A.P., ANTONENKO, G.P.,; BUDINA, L.V.; VORONINA, Ye.P.; GUSEV, P.I.: YELAGIN, M.N., ZHURAVLEV, M.A., ZALOZNYY, K.D.: KOMKOV, V.N.; KOROBOV, A.S.; KORCHAGIN, V.N.; LAVROV, V.N.; LAPSHINA, O.V.; LUTIKOV, I.Ye.; MAKEVNIN, A.Ya.; MOROZOVA, F.I.; NEVZOROV, A.P.; PONOMARCHUK, M.K,; PUCHKOV, A.M.; RAZMOLOGOVA, A.M.; RUBIN, S.M.; SELEZNEVA, O.V.; SEMENOVA, F.I.; SPIRIDONOVA, A.I.; SUSHCHEVSKIY, M.G.; USOV, M.P.; TARKOVSKIY, M.I.; CHENYKAYEVA, Ye.A.; SHENDRIKOV, G.L.; SHUL'GIN, G.I.; TSITSIN, N.V., akademik, redaktor; REVENKOVA, A.I., redaktor; KHOKHRINA, N.M., khudozhestvennyy redaktor; VESKOVA, Ye.I., tekhnicheskiy redaktor; PEVZNERV.B.I., tekhnicheskiy redaktor.

[Plant breeding at the 1955 All-Union Agricultureal Exhibition] Rastenievodstvo na Vsesoiuznoi sel'skokhoziaistvennoi vystavke 1955 goda. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1956. 687 p. (MLRA 10:4)

(Moscow--Plant breeding--Exhibitions)

L 31800-65 EWT(m) DIAAP
AM4043696 BOOK EXPLOITATION S/

//
BH

Volkov, Ivan Dmitriyevich; Ulanovskiy, Benedikt Yakovlevich; Usov, Nikolay Aleksandrovich; Tsivilev, Mikhail Porfir'yevich

Engineering-rescue operations at the site of a nuclear attack (Inzhenerno-spasatel'ny*ye raboty* v ochage yadernogo porazheniya). Moscow, Stroyizdat, 1964. 140 p. illus., biblio. Errata slip inserted. 35,000 copies printed. Editor: B. A. Zhuravlev; Technical editor: T. N. Shevchenko; Proofreader: Ye. N. Kudryavtseva.

TOPIC TAGS: civil defense, damage control, defense shelter, logistics, nuclear attak

PURPOSE AND COVERAGE: This book has been compiled for the command and superior staffs of the engineering-rescue forces of civil defense. It has been authorized by the civil defense headquarters of the SSSR as a training aid for commanders the principles of their organization and training, means of mechanization and

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methods of organizing engineering-rescue operations, and also the fundamentals of utilizing civil defense forces and the administration and material-technical provision during rescue operations at the site of a nuclear attack.

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[illegible]
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5. Bracing and demolishing building structures threatening to collapse - - 3[illegible]
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[illegible]
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3. Fundamentals of administering forces at work - - 11[illegible]
[illegible]. Possibilities of an engineering-rescue [illegible] operations at the [illegible]

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SUB CODE: MS SUBMITTED: 01Feb64 NR REF SOV: 022

OTHER: 005

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(8

15

Effect of absorbed magnesium on saline properties of soil. N. I. Usov. *Proc. Conf. Soil Sci., Saratov* 1, 41-61 (1937).—When absorbed Ca:Mg ratio is greater than 3:1, the phys. properties of the soil are detd. by its Ca content. When Ca:Mg ratio is less than 2:1 the soil becomes heavier, its structure coarser, and fissuring takes place during drying. With more than 40% of the total absorp-9 tive capacity satisfied by Mg, the soil acquires certain saline properties (increased hygroscopicity, dispersion, swelling capacity, and coloration of filtrate; diminished permeability to H_2O), but to a far smaller degree than with Na. The effect of adding Mg to saline soils (NaCl) is similar to, though less pronounced than, that of adding Ca. B. C. P. A.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

BC

B-III-1

Water régime, vegetation, and soils of the Privolzhsk and [illegible] lake systems. V. A. Solovyev and N. I. Orlov (Abh. Staatsuniv. Saratov, Geol. Bodenwiss. Ser., 1936, 1, No. 2, 99—127).—The H_2O, salt, and soil dynamics, and the flora of a region of the Caspian plain draining into a chain of periodically drying lakes, are described. R. T.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

MATERIALS INDEX

AUTHOR INDEX

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

The influence of forest strips on chernozem and chestnut soils of Southeastern Russia. N. I. Usov. *Pedology* (U. S. S. R.) **1938**, 416-34 (in ~~English, 434-37~~). —The total humus increased in the forest strips, the pH decreased and the sol. humus increased. In one case the humus decreased. The total exchange capacity increased in the *A* and *B* horizons. In the light-textured chernozem the degradation increase of absorbed H was well marked. With reference to the movement of Al_2O_3 and SiO_2, some of the forested strips showed solodization instead of podzolization. The P_2O_5 content increased in the forested strips. I. S. Joffe

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CA

15

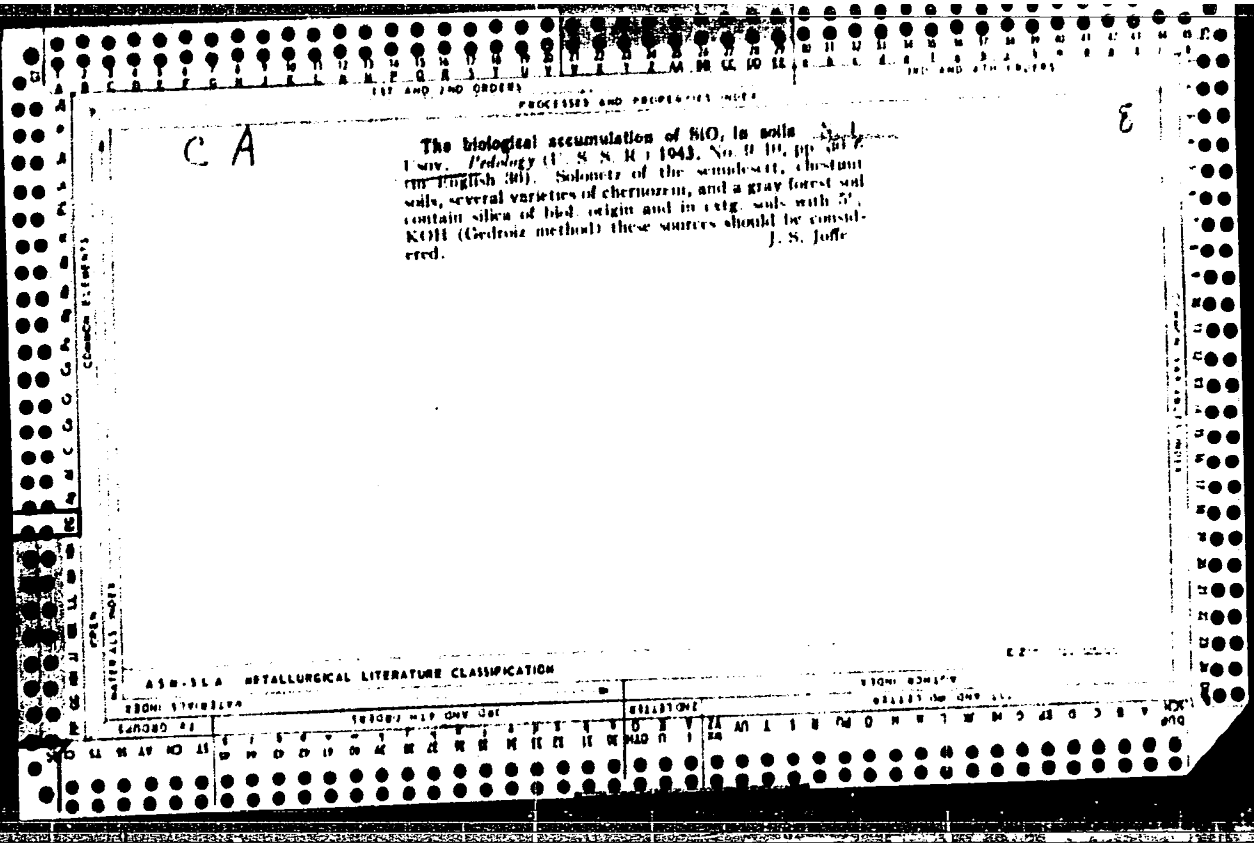
The soil complexes of the northern part of the Caspian lowlands and their possible irrigation. N. I. [illegible]. *Uchenye Zapiski Saratov. Gosudarst. Univ. N. G. Chernyshevskogo* 15, No. 1 (Miscellaneous), 189-200(1940). The soils of the northern Caspian lowlands are primary saline, saline solonetz, chernozem and chernozem solonetz. A considerable transfer of the decompn. products from the mountains takes place together with the dispersion and peptization of the coarsely dispersed and the colloidal fractions in the eluvial horizon. The synthesis of new minerals takes place in the lower horizons. The oxides in order of decreasing mobilities are (1) Na_2O and CaO, (2 Fe_2O_3 and Al_2O_3, (3) MgO and SiO_2, (4) K_2O and P_2O_5. The electroneg. gels of the colloidal complex undergo the greatest decompn. in the solonetz-forming process; isoelec. gels undergo no sharp changes. The mol. ratio SiO_2:R_2O_3 in the electroneg. gels is slightly lower than in the isoelec. C is found mostly in the isoelec. gels; N and P are found mostly in the electroneg. The water of the Volga River is suitable for the irrigation of the solonetz soils.

W. R. Henn

COMMON ELEMENTS

MATERIALS INDEX

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA

E

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

The biological accumulation of SiO_2 in soils. Univ. *Pedology* (U. S. S. R.) 1943, No. 9-10, pp. [illegible] ~~(in English~~ 30). Solonetz of the semidesert, chestnut soils, several varieties of chernozem, and a gray forest soil contain silica of biol. origin and in extg. soils with 5% KOH (Gedroiz method) these sources should be considered. J. S. Joffe

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

USOV, N.I.

[Soils of Saratov Province]Pochvy Saratovskoi oblasti. Saratov, Saratovskoe obl. izd-vo, 1948. 2 v. (MIRA 16:1)
(Saratov Province—Soils)

USOV, Nikolay Ivanovich; SHCHUKIN, Valentin Timofeyevich; GAL'PERIN, S.Yu., nauchnyy red.; UDAL'TSOV, O.A., red.; GURDZHIYEVA, A.M., tekhn. red.

[Even in days of peace there is room for heroic deeds] I v mirnye dni est' mesto podvigam. Leningrad, Ob-vo po rasprostraneniiu polit. i nauchn. znanii RSFSR, 1962. 50 p. (MIRA 15:10)

(Labor and laboring classes)

L 34388-66 EWT(1)/EWT(m)/T IJP(c) WW/AT/RM

ACC NR: AP6011434 SOURCE CODE: UR/0020/66/167/004/0848/0851

53
B

AUTHOR: Benderskly, V. A.; Usov, N. N.

ORG: Institute of Chemical Physics, Academy of Sciences, SSSR (Institut khimicheskoy fiziki Akademii nauk SSSR)

21

TITLE: The influence of acceptors on the photoelectric properties of metal-free phthalocyanine

SOURCE: AN SSSR. Doklady, v. 167, no. 4, 1966, 848-851

TOPIC TAGS: phthalocyanine, photoelectric property, photoconductivity, photoconducting film

ABSTRACT: Films of metal-free α-form of phthalocyanine (0.03 to 4 μ thick), obtained by vacuum sublimation, were analyzed in a vacuum type surface cell with gaps of 0.03 – 0.05 and 1 mm. The kinetics of the initial photoflux buildup were determined from oscillograms (buildup period, 5 μsec; pulsed photoexcitation period, 40 μsec; and peak level, $5 \cdot 10^{19}$ photon/sec on the sample surface). Stationary photoconductivity was measured. Acceptor coatings were deposited by vacuum sublimation. The results indicate that the carrier generation rate constant should be high (i.e. greater than 10^{-7} $sec^{-1} \cdot cm^2$ at $\tau_e \leq 10^{-8}$ sec),

UDC: 541.141.4

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L 34388-66

ACC NR: AP6011434

whereas the low quantum yield in pure phthalocyanine is due to extensive fill-in of the radiation centers. High quantum yields in acceptor-treated phthalocyanine films indicate that carrier generation can furnish a basic method of converting absorbed energy. The paper was presented by Academician N. N. Semenov 8 July 65. Orig. art. has: 1 figure, 1 table, and 1 formula.

SUB CODE: 07/ SUBM DATE: 08Jul65/ ORIG REF: 006/ OTH REF: 011

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USOV, N.S.

Wonder-tomatoes in the school plot. Est.v shkole no.2:83 Mr-Ap
'54. (MLRA 7:3)

1. Uchitel' Kil'dishevskoy semiletney shkoly Sovetskogo rayona
Chuvashskoy ASSR. (Tomatoes)

USOV, N.S., uchitel'

[redacted] Experiment in raising tomatoes on the school plot. Biol. v shkole 6:80 N-D '58. (MIRA 11:11)

1. Sovetskaya srednyaya shkola Yadrinskogo rayona Chuvashskoy ASSR.
(Tomatoes) (Vegetable gardening--Study and teaching)

NOGIN, V., inzh.; USOV, P.

Receivers with "earth" battery power supply. Radio no.10:48-49, 50 O '63. (MIRA 16:11)

USOV, P. G.

Jun 1948

USSR/Medicine - Seeds
Medicines - Minerals

"The Effect of Mineral Supply on the Storage and Conversion of Plastic Substances During the Ripening of the Seeds at Conditions of Low Temperature," S. A. Kasparov, P. G. Usov, Kola Sci Res Base imeni S. M. Kirov, Acad Sci USSR, 4 pp

"Dok Ak Nauk SSSR" Vol LX, No 8

Study to determine the effect of various mineral substances on the anatomic and physiological changes in cereal plants growing in near polar regions. Submitted by Acad N. A. Maksimov 19 Apr 1948.

78T36

Usov, A.G.

USOV, P.G.

USSR/Chemical Technology - Chemical Products and Their Application. Silicates. Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62306

Author: Usov, P. G., Petrov, A. V.

Institution: None

Title: Deformation of Articles Made from Red Clay on Firing

Original Periodical: Izv. Tomskogo politekhn. in-ta, 1956, No 83, 156-162

Abstract: Study of the effects of addition of 2% Na_2CO_3 and 10% $CaCO_3$ to red clays of different mineralogical and dispersive composition on the temperature of deformation under load. Addition to red clays, having a low content of fine fractions (<0.001 mm), of Na_2CO_3 and $CaCO_3$, affects the temperature of deformation of samples under load less drastically than clays containing higher percentages of fine fractions. Deformation of samples made from red clays containing $CaCO_3$ occurs sharply and within a narrow temperature interval and the deformation sets in at higher temperature. Presence of alkalies

Card 1/2

USSR/Chemical Technology - Chemical Products and Their Application. Silicates.
Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62306

Abstract: in the clays lowers the temperature of beginning of deformation, and the deformation takes place uniformly within a wide temperature interval.

Card 2/2

USOV, P.G.

Pyrochemical activity of red brick clays. Izv. Sib. otd. AN SSSR no.8:53-60 '58. (MIRA 11:10)

1. Tomskiy politekhnicheskiy institut.
(Tomsk Province--Clay--Testing)

IL'YENOK, S.S.; USOV, P.G.

Evidence of manganese ores in Gornaya Shcriya. Izv.vys.ucheb.zav.; geol.i razv. 3 no.4:86-88 Ap '60. (MIRA 13:7)

1. Tomskiy politekhnicheskiy institut.
(Gornaya Shoriya--Manganese ores)

USOV, P.G.; DUBOVSKAYA, N.S.

Study of the processes of hardening of ash lime binders by X-ray analysis and by means of an electron microscope. Izv.TPI 111:70-76 '61. (MIRA 16:9)

1. Predstavleno professorom doktorom khimicheskikh nauk A.G. Strombergom.

(Binding materials) (Lime)

USOV, P.G.; GUBER, E.A.

Refractory clays of Tugan deposits. Izv.TPI 111:77-80 '61.
(MIRA 16:9)

1. Predstavleno professorom doktorom khimicheskikh nauk A.G.Strombergom.

(Tomsk Province--Clay)

USOV, P.M.

USOV, P. M.

The Quality and Defects of Fireclay and Silica Used at the Kuznetsk Metallurgical Combine.

U-4768, Full translation.

USOV, Petr Iakovievich

(The campaign for more coal prpduction from every mine)

Moskva (Ugletekhizdat) 1949. 22p. (50-15773)

TN808.R9U8

L 14354-63 EWP(q)/EWT(m)/BDS AFFTC JD/JW/JG

ACCESSION NR: AP3003854 S/0020/63/151/003/0591/0594

55

AUTHORS: Smirnov, M. V.; Usov, P. M.; Khazemova, T. F.

TITLE: Reaction of metallic lanthanum with a melt of its trichloride and the equilibrium constant of the reaction

27

SOURCE: AN SSSR. Doklady*, v. 151, no. 3, 1963, 591-594

TOPIC TAGS: lanthanum, melt diagram, entropy, equilibrium constant

ABSTRACT: The reaction between molten La and $LaCl_3$ was measured electrochemically. Reaction between La and $LaCl_3$ was independent of temperature, a product approximating $LaCl_{2.14}$ was obtained at 864-1063F. Oxidation-reduction potentials showed a linear increase of e.m.f. with temperature (equations are given). E.m.f. data of the systems at equilibrium, shows a mixture of $LaCl_3$ and $LaCl_2$, the latter pre- dominating. The equilibrium-constant, heat capacity and entropy were calculated. The melt diagram for the La-$LaCl_3$ system was drawn, from pure $LaCl_3$ to equilibrium mixtures of $LaCl_2$-$LaCl_3$ and metallic La. Below 827F there was no $LaCl_2$ in the solid phase, only La finely dispersed in $LaCl_3$. Above this temperature, in the 0-9 mol.% La range, the excess $LaCl_3$ crystallized. Orig. art. has: 3 figures, 1 table, 10 equations

Card 1/2

L 17549-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD/JW/JG

ACCESSION NR: AP3004426 S/0020/63/151/004/0862/0865

58

AUTHORS: Smirnov, M. V.; Usov, P. M.

TITLE: Dissociation potential and thermodynamics of the reaction of formation of molten lanthanum di- and trichlorides from their elements.

SOURCE: AN SSSR. Doklady*, v. 151, no. 4, 1963, 862-865

27

TOPIC TAGS: lanthanum dichloride, lanthanum trichloride, dissociation potential, formation reaction, thermodynamics

ABSTRACT: The potential difference between the chlorine and La electrodes was measured at equilibrium with a high-voltage potentiometer at temperatures ranging from 1150-1250K. The graph of ETA as a function of temperature fits the empirical equation: $ETA_{exp} = 3.484 - 8.47 \times 10^{-4}$ T volts. $E_{La} = -3.476 + 8.30 \times 10^{-4}$ T volts. By calculating the equilibrium concentrations of $LaCl_2$ and $LaCl_3$ from $lg(LaCl_3)/(LaCl_2)_{eq} = 0.94933 + 214.84/T$ and E_{La}, values were calculated for E^0 sub La/La^{++} and E^0 sub La/La^{+++}. For the formation of La_3 from its elements, DELTA F = -241,700 + 62.3 T cal, DELTA H = -241.7 kcal, and DELTA S = -62.3 cal/°. Discrepancies between these values and those in the literature may be due in part to the fact that measurements were not made on the pure metal, but on a metallic phase saturated with lanthanum chloride. For the formation of $LaCl_2$ from its

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L 17549-63

ACCESSION NR: AP3004426

0

elements, DELTA F = -160,000 + 38.3 T cal, DELTA H = -160.0 kcal, and DELTA S = -37.3 cal/°. Orig. art. has: 3 figures and 1 table and 13 formulas.

ASSOCIATION: none

SUBMITTED: 18Feb63 DATE ACQ: 21Aug63 ENCL: 00

SUB CODE: CH, PH NO REF SOV: 003 OTHER: 002

Card 2/2

SMIRNOV, M.V.; USOV, P.M.; KHAZEMOVA, T.F.

Melting diagram of the La - LaCl system. Trudy Inst. elektrokhim. UFAN SSSR no.5:119-122 '64. (MIRA 18:2)

[illegible]

[illegible]

AUTHOR: Smirnov, M. V., [illegible], P. M., [illegible], Shabanov, O. M.

[illegible]

La

CITED SOURCE: Tr. [illegible] AN SSSR [illegible] 6, 1965, 57-64

TOPIC TAGS: liquid metal, lanthanum, lanthanum chloride, inorganic anion, electric conductivity

TRANSLATION: The specific electrical conductivity of a melt of $LaCl_3$ + La, from [illegible] ionic conductivity increases from approximately 1.5 $ohm^{-1} \cdot cm^{-1}$ for $LaCl_3$ to approximately 2.5 $ohm^{-1} \cdot cm^{-1}$ for $LaCl_3$ [illegible] Determinations were made of the transfer numbers of cationic and anionic chlorine in melts of $LaCl_3$ and $LaCl_3$, [illegible]

[illegible] through the diaphragm [illegible]

Card 1/2

L 62938-65

ACCESSION NR: AR5019133

while in a melt of $LaCl_{2.14}$, there is observed a considerable increase in the mobility of the La^{2+} anion in comparison [illegible] = 0.5[illegible], n [illegible] = 0.48). [illegible]

[illegible]

as intermediate [illegible]

SUB CODE: IC, MM ENCL: 00

Card 2/2

L 62241-65 EWT(m)/EPF(n)-2/EPA(s)-2/EWT(m)/EWP(b)/EWP(t) IJP(c) WW/JD/JG

ACCESSION NR: [illegible]

[illegible] Metallurgiya [illegible]

AUTHOR: Usov, P. M.; Smirnov, M. V.

TITLE: Cathode polarization in electrolysis of a lanthanum trichloride melt

CITED SOURCE: Tr. In-ta elektrokhimii. Ural'skiy fil. AN SSSR, vyp. 6, 1965, [illegible]

[illegible]

electrolytic deposition, molybdenum

TRANSLATION: A study was made of the polarization of a molybdenum cathode [illegible]

[illegible]

is equal to 2.524 volts at 800C and to 2.459 volts at 900C. The diffusion coefficients for La^{3+} and La^{2+} in a melt of $LaCl_3$ are equal respectively to $(0.9-1.1)\cdot 10^{-6}$ and $(2.9-3.2)\cdot 10^{-4}$ cm^2/sec. Metallic lanthanum starts to separate out on

Card 1/2

L [illegible]

[illegible]

[illegible]

[illegible], MM [illegible]

Card 2/2

L 9942-66 EWT(1)/EWT(m)/ETC/EPF(n)-2/EWG(m)/T/EWP(t)/EWP(b) IJP(c)
ACC NR: AT5028240 SOURCE CODE: UR/2631/65/000/000/0057/0064
DS/JD/WW/JG/AT

44,55 44,55 44,55 44,55

16
23
B+1

AUTHOR: Smirnov, M. V.; Usov, P. M.; Lbov, V. S.; Shabanov, O. M.

ORG: Institute of Electrochemistry, Ural Branch, Academy of Sciences SSSR 44,55 (Akademiya nauk SSSR, Ural'skiy filial, Institut elektrokhimii)

TITLE: Conductance and transference numbers in the molten system $LaCl_3 + La$ 18

SOURCE: AN SSSR. Ural'skiy filial. Institut elektrokhimii. Trudy, no. 6, 1965. Elektrokhimiya rasplavlennykh solevykh i tverdykh elektrolitov (Electrochemistry of fused salts and solid electrolytes), 57-64

TOPIC TAGS: electric conductivity, lanthanum compound, lanthanum 27

ABSTRACT: The specific conductivity of $LaCl_3 + La$ melts was measured from pure $LaCl_3$ to $LaCl_{2.14}$ in the 900 — 1015C temperature range. The specific ionic conductivity was found to increase approximately from 1.5 ohm^{-1} cm^{-1} for $LaCl_3$ to 2.5 ohm^{-1} cm^{-1} for $LaCl_{2.14}$. In melts close in composition to $LaCl_{2.5}$, a relatively narrow peak is observed with a conductivity maximum at about 7 ohm^{-1} cm^{-1}; this peak is associated with the superposition of electronic conductivity. The transference numbers of the cations and chlorine anion were determined in $LaCl_3$ and 21,44 55

Card 1/2

2

ACC NR: AT5028240

3

and $LaCl_{2.14}$ melts at 900C by direct measurements relative to solid porous diaphragms. It was shown that in the $LaCl_3$ melt, the current is carried across the diaphragm mainly by the chlorine anions ($\underline{n}_a$ = 0.9), and that in the $LaCl_{2.14}$ melt an appreciable increase in the mobility of the La^{2+} cation as compared to La^{3+} ($\underline{n}_a$ = 0.52; $\underline{n}_c$ = 0.48) is observed. The cathodic current efficiency during electrolysis of $LaCl_3$ and $LaCl_{2.14}$ confirms the appearance of a substantial electronic component and of conductivity characteristic of melts of intermediate compositions close to $LaCl_{2.5}$. Orig. art. has: 4 figures and 3 tables.

SUB CODE: 07 / SUBM DATE: None / ORIG REF: 003 / OTH REF: 006
20

L 9941-66 EWT(m)/ETC/EPF(n)-2/EWG(m)/T/EWP(t)/EWP(b) IJP(c) DS/JD/WW/JG

ACC NR: AT5028241 SOURCE CODE: UR/2631/65/000/006/0065/0068

0341

AUTHOR: Usov, P. M.; 44,55 Smirnov, M.V. 44,55

ORG: Institute of Electrochemistry, Ural Branch, Academy of Sciences SSSR 44,55 (Akademiya nauk SSSR, Ural'skiy filial, Institut Elektrokhimii)

44,55 27

TITLE: Cathode polarization during electrolysis of molten lanthanum trichloride

SOURCE: AN SSSR. Ural'skiy filial. Institut elektrokhimii. Trudy, no. 6, 1965. Elektrokhimiya rasplavlennykh solevykh i tverdykh elektrolitov (Electrochemistry of fused salts and solid electrolytes), 65-68

TOPIC TAGS: cathode polarization, lanthanum compound, molybdenum

ABSTRACT: The polarization of a molybdenum cathode was measured during the electrolysis of molten lanthanum trichloride at 860 and 960C relative to a chlorine reference electrode. The diffusivities of La^{3+} and La^{2+} in molten lanthanum trichloride were evaluated from experimental data for 860 and 960C and found to be respectively $(0.9-1.1)\,10^{-6}$ and $(2.9-3.2)\,10^{-4}$ cm^2/sec. It is established that in the range of the limiting diffusion current of the $La^{3+} \rightarrow La^{2+}$ charge transfer, when the ratio

$$\frac{[La^{3+}]}{[La^{2+}]} \approx 1,$$

Card 1/2

L 9941-66

ACC NR: AT5028241

0

the electrolysis current increases as a result of superposition of the electrode conductance. Metallic lanthanum begins to deposit at the cathode at 860 — 960C, when the current density exceeds 1.5 A/cm^2 and proceeds without any further rise in polarization. Orig. art. has: 2 figures.

SUB CODE: 07 / SUBM DATE: None / ORIG REF: 006 / OTH REF: 001

Card 2/2

SMIRNOV, M.V.; USOV, P.M.; LBGV, V.S.; SHABANOV, O.M.

Conductance and transport number in the system of a $LaCl_3 + La$ melt. Trudy Inst. elektrokhim. UFAN SSSR no.6:57-64 '65.

(MIRA 18:11)

L 42157-66 EWT(m)/T/EWP(t)/ETI IJP(c) DS/WW/JD/JG/GD

ACC NR: AT6022482 (A) SOURCE CODE: UR/0000/65/000/000/0254/0257

46
44
B+1

AUTHOR: Smirnov, M. V.; Usov, P. M.; Krasnov, Yu. N.; Khazemova, T. F.

ORG: Institute of Electrochemistry, UFAN SSSR (Institut elektrokhimii UFAN SSSR)

TITLE: Reaction of metallic lanthanum 27 with its trichloride 27

SOURCE: Vsesoyuznoye soveshchaniye po fizicheskoy khimii rasplavlennykh soley. 2d, Kiev, 1963. Fizicheskaya khimiya rasplavlennykh soley (Physical chemistry of fused salts); trudy soveshchaniya. Moscow, Izd-vo Metallurgiya, 1965, 254-257.

TOPIC TAGS: lanthanum, ~~chloride,~~ electrolysis, TRICHLORIDE, CHEMICAL REACTION, EMF

ABSTRACT: The emf method was used to study the reaction of La with $LaCl_3$ and solutions of $LaCl_3$ in the fused eutectic mixture LiCl-KCl in order to determine whether compounds of lanthanum of lower oxidation states exist, and if so, what part they play in the electrolysis of La in fused salt media. The phase diagram of the $LaCl_3$-La system was determined experimentally in the range from the pure trichloride to the product of its saturation with metallic La. The emf of galvanic concentration cells composed of two cells (liquid La in molten $LaCl_3$ saturated with La, and Mo immersed in molten $LaCl_3$ containing 0.35-23/4 mole % dissolved La) at 850-1000°C showed that the dissolution of La in the trichloride involves its reduction to the di- or monochloride. Emf isotherms plotted from experimental points were similar to those which should be expected for electrolytes made up of a mixture of $LaCl_3$ and $LaCl_2$. It is concluded that metallic La

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L 42157-66

ACC NR: AT6022482

2

partially reduces $LaCl_3$ to the dichloride; the latter is unstable, and can exist only in fused mixtures with the trichloride in contact with the metal in amounts of no more than 86 mole %. Upon solidification of the fused salt mixtures, the dichloride decomposes into the metal and the trichloride. By strengthening the La^{3+}-Cl^- bonds, the introduction of alkali metal chlorides into the melt stabilizes the trichloride to such a degree that it can no longer be reduced to the dichloride by the metal. For this reason, the electrolysis of La in fused alkali metal chlorides is not associated with the formation of La ions of a lower oxidation state in the electrolyte. Orig. art. has 3 figures.

SUB CODE: 07/ SUBM DATE: 23Aug65

Card 2/2

Usov, PV

25(3) PHASE I BOOK EXPLOITATION SOV/2905

Sokolov, Fedor Aleksandrovich, and Pavel Vasil'yevich Usov

Tekhnicheskaya mekhanika (Engineering Mechanics) Moscow, Trudrezervizdat, 1958. 422 p. Errata slip inserted. 75,000 copies printed.

Scientific Ed.: S. O. Dobrogurskiy, Doctor of Technical Sciences, Professor; Ed.: E. M. Kontsevaya; Tech. Ed.: S. I. Rakov.

PRUPOSE: This book is intended as a manual for technical schools training labor reserves.

COVERAGE: The material covered in this book includes theoretical mechanics, the basic elements of machines and mechanisms, and the fundamentals of strength of materials. Some space is devoted to parts and components of general-purpose machinery. Basic concepts of statics, kinematics, and dynamics are explained. The principles of the three ordinary modes of transmission are developed and a limited number of types of mechanisms of each mode are studied and illustrated. There are many graphical constructions and diagrams explaining the fundamentals of mechanical engineering. The text also contains a number of illustrative examples and problems together with their solutions. No personalities are mentioned. There are 21

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references, all Soviet.

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Card 2/20

USOV, P.V., kand.tekhn.nauk, dotsent

Simple method of making calculations for agricultural machinery.
Trudy MIMESKH 10:63-92 '59. (MIRA 13:12)
(Agricultural machinery)

USOV, P.V.

Concerning the distribution of the load on the leading wheels of agricultural machinery with nonhomegenous ground density. Trudy MIMESKH 4 no.2:165-180 '59. (MIRA 15:4)
(Agricultural machinery)

USOV, P.V., kand.tekhn.nauk, dotsent

Calculating spiral rack transmission. Izv. TSKhA no.5:230-236 '61. (MIRA 14:12)

(Gearing)

SOKOLOV, Fedor Aleksandrovich, kand.tekhn.nauk, dotsent; USOV, Pavel Vasil'yevich, kand.tekhn.nauk, dotsent; MEYNGARD, S.A., red.; TOKER, A.M., tekhn.red.

[Engineering mechanics] Tekhnicheskaia mekhanika. 2., ispr. i dop. izd. Moskva, Proftekhizdat, 1962. 462 p. (MIRA 15:5)

(Mechanical engineering) (Mechanics)

USOV, Pavel Vasil'yevich; GAVRILOV, F.P., red.; KARPOVA, T.V., tekhn. red.

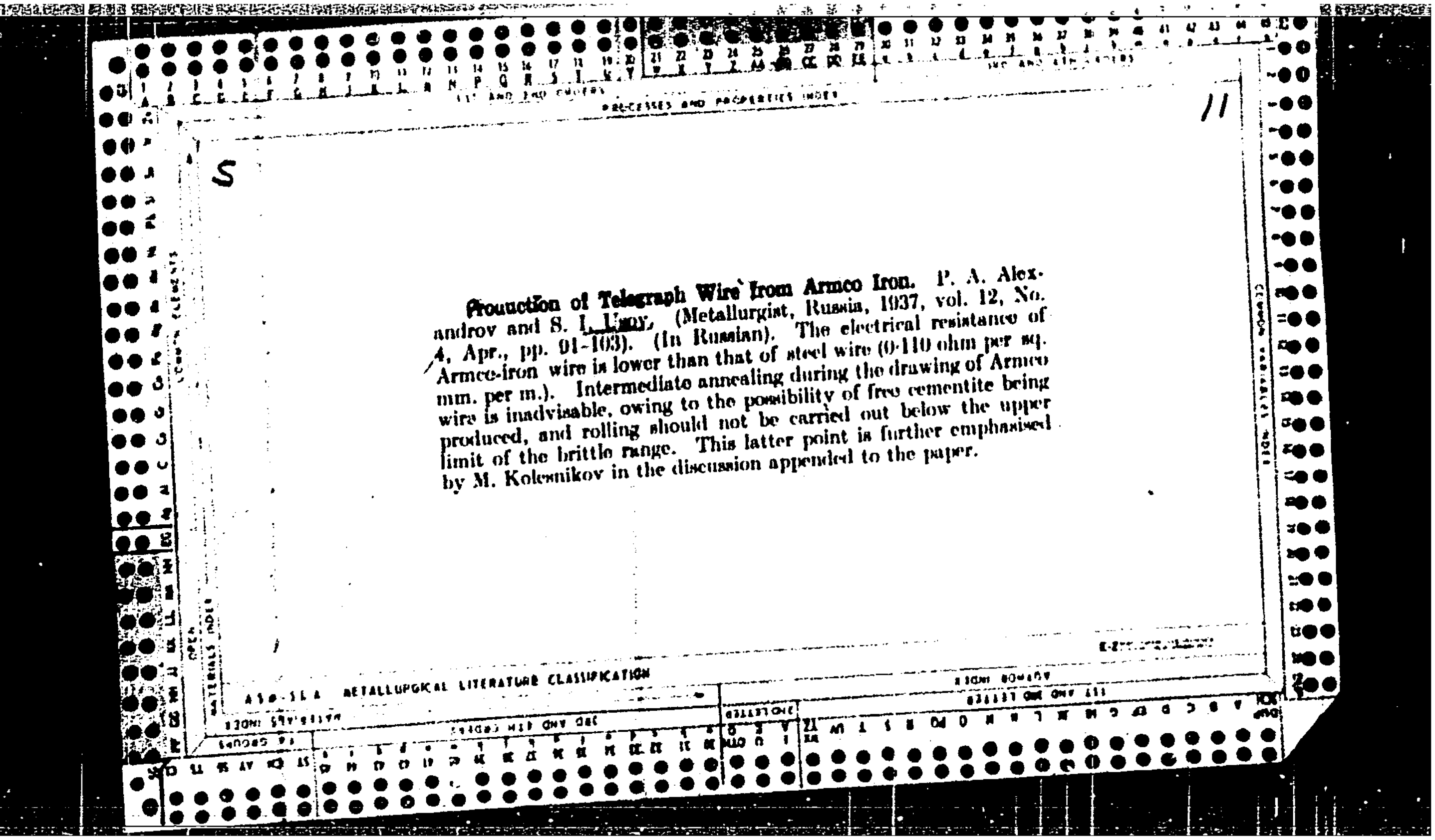
[Mechanical engineering] Mashinovedenie; posobie dlia uchashchikhsia 9 klassa sel'skikh srednikh shkol s proizvodstvennym obucheniem. Moskva, Uchpedgiz, 1963. 190 p. (MIRA 16:7)

(Mechanical engineering)

USOV, R.G.

Pyrochemical activity of red brick clays. Trudy TGU 145:
131-140 '57. (MIRA 12:3)

1. Kafedra tekhnologii silikatov Tomskogo politekhnicheskogo
instituta imeni S.M. Kirova.
(Clay--Thermal properties) (Ceramics)



PROCESSES AND PROPERTIES INDEX

S

11

Production of Telegraph Wire from Armco Iron. P. A. Alexandrov and S. I. Umov. (Metallurgist, Russia, 1937, vol. 12, No. 4, Apr., pp. 91-103). (In Russian). The electrical resistance of Armco-iron wire is lower than that of steel wire (0·110 ohm per sq. mm. per m.). Intermediate annealing during the drawing of Armco wire is inadvisable, owing to the possibility of free cementite being produced, and rolling should not be carried out below the upper limit of the brittle range. This latter point is further emphasised by M. Kolesnikov in the discussion appended to the paper.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

ZAYCHIK, Isay Yur'yevich, inzh.; USOV, Sergey Nikolayevich, inzh.; CHISTYAKOV N.I., doktor tekhn. nauk, prof., retsenzent; BULANOV, Yu.A., prepodavatel', inzh., retsenzent; BRAMMER, Yu.A., kand. tekhn. nauk, nauchn. red.; BASAVINA, Ye.V., red.

[Textbook on amplifying and radio receiving devices] Zadachnik po usilitel'nym i radiopriemnym ustroistvam. Moskva, Vysshaia shkola, 1965. 315 p. (MIRA 18:11)

1. Moskovskiy elektrotekhnicheskiy institut svyazi (for Chistyakov). 2. Moskovskiy tekhnikum avtomatiki i telemekhaniki (for Bulanov).

USOV, S.N

PHASE I BOOK EXPLOITATION SOV/4863

Bulanov, Yuriy Andreyevich, and Sergey Nikolayevich Usov

Usiliteli nizkoy chastoty i radiopriyemnyye ustroystva (Low-Frequency Amplifiers and Radio Receiving Devices) Moscow, Gosenergoizdat, 1960. 524 p. 35,000 copies printed.

Ed.: V.F. Potryasay; Tech. Ed.: N.I. Borunov.

PURPOSE: This book has been approved by the Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya SSSR (Ministry of Higher and Secondary Special Education USSR) as textbook for students attending courses on "Audio Amplifiers and Radio Receiving Devices" at the tekhnikums of the radio engineering industry. It can also be used by radio amateurs and plant personnel acquainted with the mathematical curriculum of secondary schools.

COVERAGE: The book examines the theory of the operation of audio-frequency and radio-frequency radio receiver stages, methods of calculating them, the use of semiconductor devices, and the special features of radio receivers for frequencies ranging from 30 mc up. Each chapter is followed by a short conclusion and

Card 1/10

Low-Frequency Amplifiers (Cont.)

SOV/4863

review problems. Chapters I–IX were written by S.N. Usov; chapters X–XIX by Yu.A. Bulanov. The authors thank Professor N.I. Chistyakov, V.F. Potryasay, who edited the book, and Engineer S.V. Gurinov. There are 12 references, all Soviet.

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USOV, S.V.

USSR
Cn - "Apparatus for locating damage in cables of an electric network."

SOURCE: P: Elektricheskiye Stantsii (Electric Power Plants)
Feb. 1947, Moscow
Abstracted in USAF "Treasure Island" Report No.
30649, on file in Library of Congress, Air Information Division.

Usov, S.V.

VESELOV, S.S., inzhener; OVECHKO, V.L., inzhener; GERASIMOV, V.N., redaktor; USOV, S.V., redaktor izdatel'stva; VORONETSKIY, B.V., tekhnicheskiy redaktor.

[Efficent methods employed in the Leningrad Power Plants] Ratsionalizatorskaia rabota Lenenergo. Leningrad, Gos.energ.izd-vo. No.1.1949. 241 p. [Microfilm] (MLRA 10:5)

1. Proizvotstvenno-tekhnicheskiy otdel Upravleniya Lenenergo (for Veselov, Ovechko) 2. Russia (1923- U.S.S.R.) Glavnoye upravleniye elektrostantsiy i elektrosetey TSentra.Leningradskoye rayonnoye upravleniye. 3. Zamestitel' glavnogo inzhenera Lenenergo (for Gerasimov).
(Leningrad--Electric power plants)

~~SHATELEN, M. A., ZALESSKIY, A. M., [illegible], M. M., [illegible], P. A.,~~
ZHERBIN, S. M., ARKHANGEL'SKIY, F. K. BAIRGOL'TS, A. I.,
ZOLOTAREV, T. L., BUSHUYEV, M. M., PROSKURYAKOV, V., GURVICH, A. M.,
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ALEKSEYEV, A. YE., BOLOTOV, V. V., TIKHODEYEV, I. N., GERASIMOV, N. V.,
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KLEPANOV, L. D., SALUYEV, N. F., ZAIKO, A. A., MATTEKS, M. F.

A. S. Rumyantsev, Obituary. Elektrichestvo, No. 2, 1952

SO: Monthly List of Russian Accessions, Library of Congress, July 1952 19956 Uncl.

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Title : Professor M. D. Kamenskiy. His 70th birthday and 45 years of scientific and educational activity

Periodical : Elektrichestvo, 9, 84-85, S 1955

Abstract : The authors pay tribute to Prof. M. D. Kamenskiy's scientific and educational activity and present a short biographical sketch and description of his activities.

Institution : None

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KRZHIZHANOVSKIY, G.M.; SHATELEN, M.A.; VINTER, A.V.; KOSTENKO, M.P.; POPKOV, V.I.; NEYMAN, L.R.; BOLOTOV, V.V.; KAMENSKIY, M.D.; ZALESSKIY, A.M.; USOV, S.V.

A.A. Morozov; obituary. Elektrichestvo no.12:88-89 D '56.
(Morozov, Aleksandr Aleksandrovich, d. 1956) (MIRA 11:3)

SMIRNOV, V.S.; USOV, S.I.; KOSTENKO, M.P.; HEYMAN, L.R.; ZAYTSEV, I.A.;
SHRAMKOV, Ye.G.; NESGOVOROVA, Ye.D.; PAL'IDR, Ye.A.

Professor L.M. Piotrovksii; on his 70th birthday and 45th anniversary of scientific and pedagogical activities. Elektrichestvo no.2:93 F '57. (MLRA 10:3)
(Piotrovskii, Liudvik Mar'ianovich, 1886-)

USOV, S.V., prof.; ROZENBERG, B.I., doktor tekhn. nauk, dotsent; PAVLOV,
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Frequency control with allowance for economic distribution of load
in large power systems. Izv. vys. ucheb. zav.; energ. no. 2:1-11
F '58.
(MIRA 11:7)

1. Leningradskiy politekhnicheskiy institut im. M.I.Kalinina.
(Electric power plants--Load)

AUTHORS: Usov, S. V., Pavlov, G. M., Shirshov, P. L. SOV/105-58-8-13/21

TITLE: Frequency and Output Control With Additional Action From the First Derivative of Deviation (Regulirovaniye chastoty i moshchnosti s dopolnitel'nym vozdeystviyem pervoy proizvodnoy otkloneniya)

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ABSTRACT: At the Leningrad Polytechnical Institute a frequency control was elaborated. It secures the control according to the law expressed by the formula given (3). It was produced at the Laboratory of Automation of the Lenenergo and was installed for two aggregates of one of the hydroelectric power stations of the Lenenergo. The frequency measuring element consists of two resonance circuits I and II, with a resonance frequency of 46 cycles and 54 cycles. The tuning is arranged in such a way that at 50 cycles the voltages taken from both circuits are the same and $U_{output} = 0$. In the case of a deviation of the frequency of the supply voltage from 50 cycles a d.c. voltage U_{output} occurs which is proportional to Δf.

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Frequency and Output Control With Additional Action From the First Derivative of Deviation

The output indication element is designed on the basis of a phase-sensitive circuit and transforms the deviation of the effective current component from the desired value to the d.c. voltage. To increase the rapid effect and to secure the regulation stability an additional action from the first derivative of the magnitude to be regulated (according to the frequency and effective output variation velocity) was introduced to the regulator of the Leningrad Polytechnical Institute. For this purpose differential condensers C_5 and C_8 were used., An intermediate amplifier of the control equipment is constructed with the electron tube L_1, and the power element with the thyratrons L_2 and L_3. The theoretical and experimental investigations of the frequency and effective output control (Refs 1 and 2) showed that the first derivative is an effective means for the stabilization of the control process. In this case the control rule reads according to formula (4). The frequency control device is of a secondary type and displays its effect on the aggregate through the speed control of the turbine (primary regulator). The basic parameter of the latter is the isodrome time constant T_u. On the connection of the secondary regulator the iso-

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drome time constant T_u must be practically decreased to zero. The influence exerted by a decrease of T_u on the regulation process as well as that of the introduction of the first derivation into the regulation rule are shown. - Based on the investigation carried out of the frequency and output control the following is found: 1) A high-grade frequency and output control can be obtained only when the parameters of the secondary and primary control agree concerning the conditions of their common operation. The basic parameter of the speed control of a water turbine which has to be changed on the connection of the secondary regulator to the speed regulator is T_u. 2) In controlling the frequency and the output the additional effect from the derivation combined with a decrease of T_u makes possible an acceleration of the control process, the stability being maintained. 3) The increase of the control velocity up to 40 - 50 MW/min obtained in the experiments with two aggregates does not represent any limit. It may also be assumed that in the case of a correct selection of T_u and of the amplification factor from the first

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derivation the velocity of load intake may be increased to 80 - 100 MW/min, which is demanded in modern large-scale power engineering systems. There are 10 figures and 2 references, 1 of which is Soviet.

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1. Frequency--Control systems 2. Frequency--Measurement
3. Control systems--Circuits 4. Electrical equipment--Test results

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Automatic device for load distribution in power systems. Elektrichestvo no.4:47-51 Ap '60. (MIRA 14:4)

1. Leningradskiy politekhnicheskiy institut imeni Kalinina.
(Electric power distribution) (Automatic control)